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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,181	07/16/2003	Namsoon Jung	AI-0007-EVI	2359
7590	02/23/2005		EXAMINER	
Rajeev Sharma Advanced Interfaces, Inc. Suite 104 403 South Allen Street State College, PA 16801			LUU, MATTHEW	
			ART UNIT	PAPER NUMBER
			2676	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/621,181	JUNG ET AL.	
	Examiner LUU MATTHEW	Art Unit 2676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 16 July 2003.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-30 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) Claim(s) _____ is/are allowed.
6) Claim(s) 1-5,7,8,11-15 and 20-30 is/are rejected.
7) Claim(s) 6,9,10 and 16-19 is/are objected to.
8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/16/03.

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ .
5) Notice of Informal Patent Application (PTO-152)
6) Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 21-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 21 recites the limitation "said user's selection for virtual object images on means for displaying output" in claim 21, step C. There is insufficient antecedent basis for this limitation in the claim.

Dependent claims 22-30 are considered rejected for incorporating the defect from their respective parent claim 21 by dependency.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-5, 7, 11-15, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lanier (6,400,374) in view of Hayama et al (US 2001/0034255) (hereinafter Hayama).

Regarding claim 1, Lanier discloses (Figs. 1 and 2) a method for augmenting visual images of audio-visual entertainment systems, comprising the steps of:

(a) enhancing one of users' facial images in the video input (Fig. 1 shows a facial area 16; and Fig. 2 shows a mask in the facial area 34); wherein the step for enhancing the user's facial image is processed in a facial image enhancement module (control system 12) automatically, dynamically (animation), and in real-time. See column 4, lines 8-23; and column 10, lines 14-18.

The only difference between the disclosure of Lanier and the claimed invention is that the claim 1 requires the step of simulating a virtual stage environment image processed in a virtual stage simulation module.

However, Hayama discloses (Figs. 1, 2, and 38-52) an audio-visual entertainment system comprises the step of simulating a virtual stage environment image processed in a virtual stage simulation module (Fig. 43, section 283). It would have been obvious to a person of ordinary skill in the art to use the virtual stage simulation technique of Hayama into the audio-visual entertainment system of Lanier to provide more special effects and more rich and interesting video and graphics images entertainment display system.

And vice versa, Since Hayama also mentions that it is also possible to change or switch the object's face or hairstyle (section 294), it would have been obvious to the person of ordinary skill in the to use the facial image enhancing technique of Lanier into the audio-visual entertainment system of Hayama to provide a live video image that can merged with a computer graphics image and presented as a composite images.

Regarding claim 2, Lanier discloses wherein a step for superimposing virtual object image to the facial image (Fig. 1 shows a facial area 16; and Fig. 2 shows a mask in the facial area 34). See column 4, lines 8-23; and column 10, lines 14-18.

Regarding claim 3, Lanier discloses wherein a step for superimposing virtual object image to the facial image in real-time (column 10, lines 14-18).

Regarding claim 4, Hayama discloses (Figs. 39-43) wherein the step of simulating a virtual stage environment image further comprises the steps of (a) processing virtual object image selection (selecting objects C1-C3), (b) processing music selection (page 2, section 40; and page 13, section 253); (c) composing virtual stage images (page 3, sections 43 and 46).

Regarding claim 5, Hayama discloses (Figs. 39-43) a step for combining the user's enhanced face and body images with dynamically changing virtual background images (page 15, sections 293-296).

Regarding claim 7, Hayama discloses (Figs. 39-43) a step for using any arbitrary background.

Regarding claim 8, since Hayama discloses (Figs. 39-43) a step for using any arbitrary background, it would have been obvious to the person of ordinary skill in the art to recognize that the user can either select a standard background or a dynamic background.

Regarding claim 11, Lanier discloses (Figs. 1 and 2) an apparatus for augmenting visual images of audio-visual entertainment systems, comprising:

(a) one or a plurality of means for capturing images (camera 2);

(b) means for displaying output (display 4);
c) means for processing and controlling (control system 12),
(d) a sound system (Fig. 2, a headphone 10 and acoustic receiver 24);
whereby the apparatus enhances one or a plurality of users' facial images in the capture images, automatically, dynamically, and in real-time (Fig. 1 shows a facial area 16; and Fig. 2 shows a mask in the facial area 34). See column 4, lines 8-23; and column 10, lines 14-18.

The only difference between the disclosure of Lanier and the claimed invention is that the claim 1 requires a microphone and simulating a virtual stage environment image.

However, Hayama discloses (Fig. 2) a sound system (sound block 12) and a microphone (Fig. 52, microphone 150). Hayama further discloses (Figs. 38-52) an audio-visual entertainment system comprises the step of simulating a virtual stage environment image processed in a virtual stage simulation module (Fig. 43, section 283). It would have been obvious to a person of ordinary skill in the art to use the virtual stage simulation technique of Hayama into the audio-visual entertainment system of Lanier to provide more special effects and more rich and interesting video and graphics images entertainment display system.

And vice versa, Since Hayama also mentions that it is also possible to change or switch the object's face or hairstyle (section 294), it would have been obvious to the person of ordinary skill in the to use the facial image enhancing technique of Lanier into

the audio-visual entertainment system of Hayama to provide a live video image that can merged with a computer graphics image and presented as a composite images.

Regarding claim 12, Hayama discloses (Figs. 43-44) means for controlling lighting.

Regarding claim 13, Lanier discloses (Fig. 5) one of means for capturing images comprises one camera (86) and one frame grabber (91) (column 9, line 45).

Regarding claim 14, Hayama also discloses a plurality of cameras (page 3, section 46) for dynamically controlling fields of view (Figs. 39-42 show different fields of view (1, 2, and 3).

Regarding claim 15, Lanier discloses (Fig. 5) one of means for capturing images comprises video cameras (86, 112). Furthermore, the type of cameras being used in an obvious design choice since it is desirable for the user to select the type of camera that provide the best video or digital images that best fit for the purpose of generating a captured image.

Regarding claim 20, Hayama discloses (Figs. 39-43) a step for using any arbitrary background.

Claim Rejections - 35 USC § 103

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lanier (6,400,374) in view of Hayama et al (US 2001/0034255) as applied to claim 4 above, and further in view of Kumar et al (6,692,259).

Regarding claim 8, the only difference between the disclosure of Lanier and the claimed invention is that the claim requires a background subtraction for changing the background to be dynamic.

However, Kumar et al (6,692,259) discloses (Fig. 4) an apparatus for providing interactive karaoke entertainment with a background subtraction. It would have been obvious to the person of ordinary skill in the art to use the background subtraction technique of Kumar et al into the audio-visual entertainment system of Lanier to provide an interactive entertainment system with more special effects and interesting video and graphics images entertainment display system.

Allowable Subject Matter

Claims 6, 9-10, and 16-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 21-30 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

-Stelovsky (5,782,692) discloses an interactive system for playing a game, educational or instructional sequence in conjunction with a prerecorded multimedia presentation consists at least motion video, sound and accompanying text.

-Corset (US 2002/0007718) discloses a karaoke system consisting of developing the concept of video immersion. The user will see his image inserted into the video clip or movie at the place of his favorite dancer, singer or player.

-Nishitani et al (US 2003/0167908) disclose (Fig. 42) an image with a guitar.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUU MATTHEW whose telephone number is (703) 305-4850. The examiner can normally be reached on Flexible Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BELLA MATTHEW can be reached on (703) 308-6829. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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**MATTHEW LUU
PRIMARY EXAMINER**